

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

TETRA Chemicals

West Virginia Manufacturing Extension Partnership

Tetra Chemicals Brings A Breath Of Fresh Air To Workplace Safety

Client Profile:

TETRA Chemicals is a manufacturer of calcium chloride solutions for use by general industry and in food and brewing applications. The publicly held firm, with a total employment of 10, is located in Parkersburg, West Virginia.

Situation:

TETRA Chemicals utilizes hydrochloric acid as an integral part of its production process. The acid is delivered via tank trucks and rail cars. Upon receipt, the acid must be transferred from the tank truck or rail car to the storage tanks situated in key production areas. The quality of the air to which TETRA Chemicals' employees are exposed during the unloading operation was unknown. The company was working with the West Virginia Manufacturing Extension Partnership (WVMEP), a NIST MEP network affiliate, on other safety issues, and asked the organization to review the quality of the plant's air.

Solution:

WVMEP conducted an air monitoring survey to provide an exposure baseline; it also reviewed the existing acid unloading procedure. TETRA Chemicals' air quality survey comprised air monitoring (sampling), employee interviews, and general observations. With these techniques, WVMEP was able to quantitatively determine an index of employee exposure to hydrochloric acid at TETRA Chemicals. The study revealed that the employees were consistently under the Occupational Safety and Health Administration (OSHA)'s permissible exposure limit (PEL) and the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) for hydrochloric acid.

Based on these results, the working conditions at the plant needed no further evaluation until changes occur to the production process and/or the production material formulations. The operating procedure used to describe the approved unloading method for hydrochloric acid was found to be acceptable for the current unloading process and production material formulation.

Results:

Verified workplace safety using standard guidelines.
Reinforced plant safety practices.

Testimonial:

www.mep.nist.gov



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"The services of the West Virginia Manufacturing Extension Partnership exceeded my expectations. This evaluation was very important to the well-being of our employees and the safety awareness of our management."

Gaylon Berry, Plant Manager